CLAIMS

1. A solid polymer electrolyte fuel battery cell comprising a solid polymer electrolyte membrane, a fuel electrode and an oxidant electrode, the both electrodes being disposed on both sides of the membrane, and a pair of current collectors disposed outside the electrodes, wherein a water-retaining material comprising fibers at least the surface layer of which contains a metal oxide is combined and integrated with at least the fuel electrode among the solid polymer electrolyte membrane, the fuel electrode and the oxidant electrode.

2. The solid polymer electrolyte fuel battery cell according to claim 1, wherein the water-retaining material is in the form of fiber cloth.

3. The solid polymer electrolyte fuel battery cell according to claim 2, wherein the fiber cloth comprises fibers having an average diameter of 0.10 to 100 μm and is a woven or nonwoven fabric having a basis weight of 1.0 to 300g /m^2 and a thickness of 20 to 1000 μm.

4. The solid polymer electrolyte fuel battery cell according to any one of claims 1 to 3, wherein the water-retaining material is combined and integrated with all of the solid polymer electrolyte membrane, the fuel electrode and the oxidant electrode.

5. The solid polymer electrolyte fuel battery cell

according to any one of claims 1 to 3, wherein the water-retaining material is combined and integrated with both of the fuel electrode and the oxidant electrode.

6. The solid polymer electrolyte fuel battery cell according to claim 5, wherein a water-retaining material combined and integrated within the fuel electrode and a water-retaining material combined and integrated with the oxidant electrode are connected to each other outside the edge of the solid polymer electrolyte membrane.

7. A fuel battery using the solid polymer electrolyte fuel battery cell according to claim 1.

8. A water-retaining material for solid polymer electrolyte fuel battery cells, which comprises a woven fabric at least the surface layer of which contains a metal oxide.